

## DETAILS OF E-CONTENT AND ITS STRUCTURE

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Institution Name	NEZAMIA COLLEGE OF EDUCATION
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Subject Name	Creating an Inclusive School
E-content Name/Title	Understanding the learning disabilities

### Objectives:

After the completion of the unit, the learners will be able to:

1. Explain the concept of learning disability.
2. List down the signs and symptoms of learning disabilities.
3. Describe the different types of learning disabilities.

## UNDERSTANDING THE LEARNING DISABILITIES

### Introduction

Learning disabilities are neurologically-based processing problems. These processing problems can interfere with learning basic skills such as reading, writing and calculating. They can also interfere with higher level skills such as organization, time planning, abstract reasoning, long or short term memory and attention. It is important to realize that learning disabilities can affect an individual's life beyond academics and can impact relationships with family, friends and in the workplace. Since difficulties with reading, writing and calculating are recognizable problems during the school years, the signs and symptoms of learning disabilities are most often diagnosed during that time.

Generally speaking, people with learning disabilities are of average or above average intelligence. There often appears to be a gap between the individual's potential and actual achievement. This is why learning disabilities are referred to as "hidden disabilities", the person looks perfectly "normal" and seems to be a very bright and intelligent person, yet may be unable to demonstrate the skill level expected from someone of a similar age.

### **Meaning**

Learning disabilities are lifelong. Learning disabilities are due to genetic and/or neurobiological factors or injury that alters brain functioning in a manner which affects one or more processes related to learning. It refers to a number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning.

### **Kinds of Learning Disabilities**

1. Dyslexia
2. Dysgraphia
3. Dyscalculia
4. Dyspraxia

### **Dyslexia**

A specific learning disability that affects reading and related language-based processing skills. The severity can differ in each individual but can affect reading fluency, decoding, reading comprehension, recall, writing, spelling, and sometimes speech and can exist along with other related disorders. Dyslexia is sometimes referred to as a Language-Based Learning Disability. It affects reading and related language-based processing skills.

Dyslexia is a chronic problem with reading. It is a common learning difficulty, affecting a large percentage of those identified as "learning disabled." People with a learning

difference like dyslexia may have trouble with reading, writing, spelling, math, and sometimes music.

A more positive view of dyslexia describes people with dyslexia as visual, multidimensional thinkers who are intuitive, highly creative, and excel at hands-on learning. Many people with dyslexia shine in the arts, creativity, design, computing, and lateral thinking.

### ***Signs and Symptoms***

1. Reads slowly.
2. Experiences decoding errors, especially with the order of letters.
3. Shows wide disparity between listening comprehension and reading comprehension of some text.
4. Has trouble with spelling.
5. May have difficulty with handwriting.
6. Exhibits difficulty recalling known words.
7. Has difficulty with written language.

### ***Intervention Strategies***

There are numerous programmes, teaching aids, software packages etc that you can use with students. Whichever you choose, if you are positive about it then the pupil's confidence is improved there is a far greater chance of success. Training should be multi-sensory involving looking, listening, speaking, touching etc with as much variation as possible but we are all unique and it is good to observe whether the child/adult is predominantly Visual Learner (learns best by seeing), Auditory Learning(learns best by listening) and Kinesthetic Learner(learns by doing/feeling).

### ***Visual Learner***

1. Use pictures and multi-media material
2. Stick spelling words anywhere in view
3. Look at pictures in a book before reading
4. Play games and solve puzzles to improve memory
5. Draw mind maps
6. Use different colours
7. Use good visual software programmes

### ***Auditory Learners***

1. Talk about the book to be read or the information to be learned
2. Make sure instructions are orally clear
3. Get the student to record the information so it can be listened to again
4. Use software which has good auditory input.

### ***Kinesthetic Learners***

1. Trace letters in sand or in the air.
2. Use concrete objects which can be handled e.g. wooden letters, numbers etc.
3. Memorize facts while moving about.

### **Dysgraphia:**

The term dysgraphia is taken from the Greek word, meaning "bad" or "difficult" and graphia meaning "writing." Thus, "dysgraphia" literally means "bad writing". It is also defined as a learning disability with impairment in written expression that is the inability to write.

It affects a person's handwriting ability and fine motor skills. A person with this specific learning disability may have problems including illegible handwriting, inconsistent spacing, poor spatial planning on paper, poor spelling, and difficulty composing writing as well as thinking and writing at the same time.

### ***Signs and Symptoms***

1. May have illegible printing and cursive writing.
2. Shows inconsistencies: mixtures of print and cursive, upper and lower case, or irregular sizes, shapes or slant of letters
3. Inconsistent spacing between words and letters
4. Exhibits strange wrist, body or paper position
5. Has difficulty pre-visualizing letter formation
6. Copying or writing is slow or labored
7. Shows poor spatial planning on paper
8. Has cramped or unusual grip/may complain of sore hand

9. Has great difficulty thinking and writing at the same time (taking notes, creative writing.)

### ***Intervention Strategies***

1. Children with dysgraphia need to strengthen hand muscles and improve motor control by playing with clay, keeping within lines on mazes, connecting dots or dashes to create complete letters, and tracing letters with an index finger or a pencil eraser.

2. To improve motor memory, have students practice forming letters and numbers in the air with big arm movements. Then, have them form letters and numbers with smaller hand or finger motions. Students should also experiment with pencil grips, shorter pencils, and other pencils and pens to find what feels best for them.

3. While remediation should be ongoing since good handwriting takes time and practice, strategies for dealing with dysgraphia include modifications, or changes in assignments to avoid writing.

4. Reduce copying of assignments and tests. Choose the questions that the student should answer in complete sentences, then allow the others to be answered in phrases or words. When students are copying definitions, let the student shorten them or give him the definitions and have him highlight or underline important words or phrases.

5. Give shorter written assignments.

6. Assignments can be modified in the following ways without changing the academic task: Grade assignments on individual elements of the writing process. On one assignment, make spelling count, then make grammar count on the next. On long-term assignments, help the student plan by providing intermittent due dates and working with him as a deadline approach.

7. Give the student an alternative to a written assignment. Assign an oral report or visual project and specify what the student should include.

8. Providing additional time for note-taking, copying, and tests.

9. Starting projects or assignments early.

10. Providing the student with an outline so he can fill in details under major headings instead of taking notes.

11. Dictating some assignments or tests using a scribe.

12. Allowing abbreviations in some writing.
13. Not counting spelling on rough drafts.
14. Using a spell checker or having another student proofread his work.
15. Allowing the student to print or write in cursive, whichever is most legible.
16. Encouraging younger students to use paper with raised lines.
17. Allowing older students to use a different line width.
18. Allow students to use different color paper, pens, or pencils.
19. Allowing the student to use graph paper for math to help with lining up columns of numbers.
20. Allowing the student to use a word processor and speech recognition software, if necessary and appropriate.

Students should continue to work on improving their handwriting as it is an important skill and necessary in daily life. Meanwhile, strategies for dealing with dysgraphia, such as these modifications and accommodations, help facilitate learning and ease difficulties inside and outside the classroom.

### **Discalculia:**

A specific learning disability that affects a person's ability to understand numbers and learn math facts. Individuals with this type of LD may also have poor comprehension of math symbols, may struggle with memorizing and organizing numbers, have difficulty telling time, or have trouble with counting. It affects a person's ability to understand numbers and learn math facts.

#### ***Signs and Symptoms***

1. Shows difficulty understanding concepts of place value, and quantity, number lines, positive and negative value, carrying and borrowing
2. Has difficulty understanding and doing word problems
3. Has difficulty sequencing information or events
4. Exhibits difficulty using steps involved in math operations
5. Shows difficulty understanding fractions
6. Is challenged making change and handling money
7. Displays difficulty recognizing patterns when adding, subtracting, multiplying, or dividing

8. Has difficulty putting language to math processes
9. Has difficulty understanding concepts related to time such as days, weeks, months, seasons, quarters, etc.
10. Exhibits difficulty organizing problems on the page, keeping numbers lined up, following through on long division problems

### ***Intervention Strategies***

1. Use concrete materials and start from practical activities.
2. Avoid creating anxiety for the student.
3. Establish the student's preferred learning style.
4. Teach more than one way to solve mathematical operations.
5. Build on student's existing knowledge.
6. Try to understand the student's errors, do not just settle for wrong.
7. Concentrate on one concept at a time.
8. Language should be kept to a minimum and specific cue given for various mathematical operations in word problems.
9. Encourage students to visualize mathematical problems. Allow students to draw a picture to help them understand the problem and ensure they take time to look at any visual information such as charts and graphs.
10. If the student does not have co-existing reading difficulties, encourage him/her to read problems aloud.
11. In the early stages of teaching new mathematical skills ensure that the mathematical problems are free of large numbers and unnecessary calculations.
12. Provide examples and try to relate problems to real-life situations.
13. Provide students with graph paper/squared paper and encourage them to use this to keep the numbers in line.
14. Ask to explain verbally how he/she arrived at particular solutions.
15. Explain new concepts in a logical manner.
16. Encourage students to teach a concept back in order to check understanding.
17. Ensure worksheets are uncluttered and clearly laid out and provide ample room for uncluttered computation. Ensure that the page does not look intimidating.
18. Limit copying from the board.
19. Allow students to use computers and calculators, especially to self-correct.

20. Provide students with extra time to complete tasks and encourage the use of rough work for calculations.
21. Directly teach the language of Mathematics.
22. Always bear in mind the language of Mathematics differs significantly from spoken English.
23. Use consistent mathematical language both in your classroom and throughout the school.
24. Make use of mnemonics and visual prompting cards to assist students in memorizing rules, formulae and tables. Repetition is also very important.
25. Always match the strategy to the student's identified needs and abilities.

## **Dyspraxia**

Dyspraxia is a condition which can be acquired or developmental. Children with dyspraxia often have difficulty organizing their bodies to perform the tasks they want their bodies to do. They find motor planning challenging, and struggle to perform fluid, smooth movements with finesse and control. They may find their motor skills fall behind those of their peers, and can often appear clumsy and awkward. A disorder that is characterized by difficulty in muscle control, which causes problems with movement and coordination, language and speech, and can affect learning. Although not a learning disability, dyspraxia often exists along with dyslexia and dyscalculia. They face problems in movement, coordination, language and speech.

### ***Different Kinds of Dyspraxia***

Dyspraxia can affect different kinds of movement. Professionals you speak to might break it down into these categories:

1. **Ideomotor dyspraxia:** Makes it hard to complete single-step motor tasks such as combing hair and waving goodbye.
2. **Ideational dyspraxia:** Makes it more difficult to perform a sequence of movements, like brushing teeth or making a bed.
3. **Oromotordyspraxia**, also called verbal apraxia or apraxia of speech: Makes it difficult to coordinate muscle movements needed to pronounce words. Kids with

dyspraxia may have speech that is slurred and difficult to understand because they're unable to enunciate.

4. **Constructional dyspraxia:** Makes it harder to understand spatial relationships. Kids with this type of dyspraxia may have difficulty copying geometric drawings or using building blocks.

### *Signs and Symptoms*

1. Exhibits poor balance; may appear clumsy; may frequently stumble
2. Shows difficulty with motor planning
3. Demonstrates inability to coordinate both sides of the body
4. Has poor hand-eye coordination
5. Exhibits weakness in the ability to organize self and belongings
6. Shows possible sensitivity to touch
7. May be distressed by loud noises or constant noises like the ticking of a clock or someone tapping a pencil
8. May break things or choose toys that do not require skilled manipulation
9. Has difficulty with fine motor tasks such as coloring between the lines, putting puzzles together, cutting accurately or pasting neatly
10. Irritated by scratchy, rough, tight or heavy clothing

### *Intervention Strategies*

There are some specific strategies you can employ in and outside the classroom to assist the student with dyspraxia. These include:

1. reducing the information load by providing instructions one at a time or as visual and / or auditory instructions.
2. avoiding situations where the student has to perform in front of an audience if they don't want to perform.
3. keeping objects in the classroom in the same place so it remains a predictable physical environment.
4. providing alternatives for handwriting tasks (such as keyboarding).
5. involving therapy support services and seeking advice when needed.
6. ensuring the play area is safe for a child with dyspraxia.

## **Approaches in identifying children with Disabilities**

The Rehabilitation Council of India (1995) reports that not even five per cent of the disabled population are currently enjoying educational facilities. To provide education to this uncovered population, appropriate strategies need to be adopted for locating them for early intervention services. Early intervention would solve many of the problems of the child later in life. The common approaches in identifying persons with disabilities are as follows.

**(1) Cognitive approach:** This identification is purely based on the cognitive abilities of the child. By adopting the cognitive approach, identification of children may be made as those who are mentally retarded, slow learners, normal learners, academically advanced learners and gifted learners. For example

- The child who has an IQ between 50 and 75 will come under the category of educable mentally retarded child.
- The trainable mentally retarded children have an IQ of 25 to 50 and they may find it difficult even to perform manual kind of work.
- Those who have an IQ of less than 25 are called totally dependent category.

**(2) Sensory approach:** The sensory approach is based on the ability of the senses. By adopting it we can identify visually impaired, hearing impaired and deaf & dumb children. Out of them, visually impaired children are neither cognitive impaired nor communication impaired. They lack abilities in the orientation of environment. On the other hand, the deaf child's main problem is in the area of communication skills. The deaf blind children will have a serious disadvantage in both orientation and communication skills. As blind and deaf children are not impaired cognitively, they can follow the same curriculum meant for the sighted and hearing children. However, certain curricular adaptations have to be made to suit their learning styles.

**(3) Ability-based approach:** There are many children who experience difficulty in processing information. Though their intelligence is normal and senses too are normal, sometimes they perform poorly due to lack of ability in processing information. Information processing theorists feel that these children lack adequate skills in attention,

perception, memory, encoding etc. These children are called as learning-disabled children. Dysgraphia, Dyslexia and Dyscalculia are some of the defects associated with the learning problems in general.

**(4) *Society-based approach:*** Among disabled children, some of them are facing emotional problems too. The behaviour disorders in these children may also be a result of social problems such as the state of experience of neglect, over-protection, etc. There are many children who experience emotional problems. These children have to be provided the most appropriate environment for overcoming difficulties.

### **Role of Teacher in Managing Students with Disabilities**

1. Break learning tasks into small steps.
2. Probe regularly to check understanding.
3. Provide regular quality feedback.
4. Present information visually and verbally.
5. Use diagrams, graphics and pictures to support instruction.
6. Provide independent practice.
7. Provide prompts of strategies to use and when to use them.
8. Use graphic organizers to support understanding of relationships between ideas.
9. Use adaptive equipment if appropriate (books on tape, laptop computers, etc.).
10. Provide clear photocopies of notes and overhead transparencies.
11. Provide a detailed course outline before class begins.
12. Keep oral instructions logical and concise and reinforce them with brief cue words.
13. Repeat or re-word complicated directions.
14. Give assignments both in written and oral form.
15. Have practice exercises available for lessons, in case the student has problems.
16. Have student underline key words or directions on activity sheets (then review the sheets with them).
17. Provide and teach memory strategies, such as mnemonic strategies and elaborative rehearsal.
18. Clearly label equipment, tools, and materials, and use color-coding.
19. Provide a peer tutor or assign the student to a study group.
20. Use mnemonic devices to teach steps of a math concept.

**Conclusion:**

A learning disability is a neurological disorder. In simple terms, a learning disability results from a difference in the way a person's brain is "wired." Children with learning disabilities are as smart as or smarter than their peers. But they may have difficulty reading, writing, spelling, reasoning, recalling and organizing information if left to figure things out by themselves or if taught in conventional ways. A learning disability can't be cured or fixed; it is a lifelong issue. With the right support and intervention, however, children with learning disabilities can succeed in school and go on to successful, often distinguished careers later in life.

Parents can help children with learning disabilities achieve such success by encouraging their strengths, knowing their weaknesses, understanding the educational system, working with professionals and learning about strategies for dealing with specific difficulties.

**Questions for discussion and reflection**

1. Explain the different kinds of learning disabilities.
2. Describe the importance and means of identifying the learning disabilities of students.
3. Suggest the strategies to overcome the learning disabilities of students
4. Explain the various approaches in identifying children with disabilities.
5. Discuss the role of teacher in managing students with disabilities.

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